VOLUME III, NO. 9 — SEPTEMBER 1981

# OSIO Newsletter

## OS-65D Boot-Up Menu

By M. F. Putnam
Courtesy of Osmosus News, Roseville, MN

The OSI disk operating system loads BASIC, then loads and runs the BEXEC* program. OSI figured users would probably want to run or write BASIC programs.

If the user wants to write machine code programs or use the Extended Monitor, he types EXIT (from BASIC) and then ASM or EM. The operating system then overlays the BASIC interpreter with the Assembler or the Extended Monitor.

Many times when I sit down to the computer I intend only to work with the Assembler or the Extended Monitor, and the extra wear on the disk drive to load the 5 tracks of BASIC, load the directory track, and then load and run the BEXEC* program is unnecessary.

I have therefore developed a small menu program which is placed in the OS-65D bootup routine of Track 0. This program takes control just before OS-65D would normally load the BASIC interpreter. The program prints a menu and allows the user to press "A" to select the Assembler, "B" for BASIC, "E" for the Extended Monitor, or "D" for the DOS command mode (A* prompt).To add the Menu program to Track 0 of a diskette;

1. Create a 1-track file to store the Menu program.
2. Load the 6502 Assembler and type in the Menu program Save it (source code) in the file created in Step 1.
3. Type EXIT to get the A* prompt, then CA 0200=13,1 (CA 0200=01,2 for 8" disks), and GO 0200. The OSI diskette utilities should be displayed. Select the Track 0 Read-Write utility (Option 2) and then type R4200. Next, type E to return to the A* prompt.4. Type ASM to bring in the 6502 Assembler, and then load the Menu program file. Type M2000, then A3.5. Type EXIT to get the A* prompt, then type CA 0200=13,1 (CA 0200=01,2 for 8" disks) and GO 0200.

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## More on Rotate Right

Making use of the ROR instruction continues to get attention, this time from both Jim Kupperian, of Bowie, MD., and Jim Cressie, president of Compustat in Chicago.

John S. Sauter, of the University of Michigan, reported in the May issue of BYTE that OSI Microsoft BASIC does not use the ROR instruction, which was not in the earliest 6502 chips.

Lee Conyers endorsed Mr. Sauter's findings in the June Newsletter, and reported a speed increase of about 28% in the multiplication of a series of very long numbers -- the kind of operation ROR helps most.

Jim Cressie tried it by calculating depreciation on 67 items -- using the ROR operation less often, of course -- and found a decrease in run time of about 5%. That may not be very important if you're running Star Trek, but if you 're updating a big set of books, the saving can be significant. Jim Cressie sends a printout showing how to introduce the change to your 65U BASIC with the CHANGE utility.

Jim Kupperian found some errors in Mr. Sauter's implementation of the change for OS-65D, and sends a printout showing how to introduce ROR to your 65D BASIC.

(Editor's Note: Jim Kupperian thinks Mr. Sauter "found us a pot of gold."

Because of the saving in execution time?

Not at all -- because of the 133 bytes the modification frees up for some other use.

Jim looks at those 133 bytes the way a four-year-old looks at a chocolate nut sundae with whipped cream and a cherry on top. He has plans for them.

Nevertheless, he'd like to be one of a team advancing on them instead of a lone wolf. He therefore suggests that OSIO offer a $50 prize to the member who submits the

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# OS-65D Notes

### DEPARTMENT OF GOOFS AND BOOBOOS

In discussing disk input and output some time ago, I stated that although the manual says that it doesn't, the buffer is zeroed when the DISK CLOSE command is given. Chuck Popenoe called me recently to say that something he was working on required that the buffer be zeroed, but that the garbage still was in there.

I then did what I should have done before I made the statement, that is, I looked at the buffer -- and I was wrong. The buffer is NEVER zeroed by any of the disk input or output commands. My error was in misinterpreting the meaning of the dirty buffer flag which the manual states is set when the buffer is dirty. Looking at the flag before and after the DISK CLOSE command, I saw that the command had changed it to 0 and ASSUMED that meant that the buffer had been zeroed. Apparently what the flag indicates is that the transfer from buffer to disk has been made.

As a matter of fact what the manual actually says is,

"After completing output to the disk, the current buffer contents may be left dirty. (Data has been written to the buffer, but the disk hasn't yet been updated by transferring the buffer out to disk.) If this is so, as indicated by a non-zero buffer dirty flag, the user must perform the final disk transfer. This can be done by reading past the end of the current buffer which will cause a page fault and update the disk."

Except for the last sentence above, which is confusing because the CLOSE command updates the disk, the rest seems clear enough.

The fact that the buffer is not zeroed makes no difference for file uses of the computer, but if you do require that the buffer be cleaned, you will have to do it yourself.

### BUG IN 'TWOBUF'

Moving up the bottom of a program allows you to store data beneath it, which can sometimes save wasting a whole track on a little data. This is done in 'TWOBUF', a program that illustrates sorting techniques used for long files. In this program, one piece of information stored below the program is the number of records in the file. Since this number changes when records are added or deleted, not only must the new number be inserted below the program, but the program must be written to the disk, consequently the following line should be added:

```
355 DISK!"PUT TWOBUF"
```

### BUG IN MY VERSION OF 'BEXEC*'

The routine to determine the maximum length of tracks available is called with the subroutine at 11000 for both sectors of the directory. It should be called only after both sectors of the directory have been read. To correct this, add or change the lines as given below:

```
10060 GOSUB 11131
11125 NEXT I
11130 RETURN
```

If you find any other bugs, please let me know.

### JACKPOT IN THE PROGRAM EXCHANGE DEPARTMENT!

The number of programs in the OS65D exchange disk library has greatly increased in large part due to quite a few programs from the Montgomery County highschools. Two of these programs are particularly noteworthy. One is an addition to the operating system which allows automatic line numbering, line editing, the ability to use a single key (plus the CTRL) for most of the BASIC commands, and the ability to call up TRACE and the DISK COPIER by punching a single key (plus CTRL). Unfortunately it does have a bug or two in it, the most important of which is that it kills the INDIRECT files command. Hopefully, somebody will figure out how to eliminate the bugs.

Another very useful program not only condenses the utilities into TWO tracks but adds additional utilities to change the length of a file and to move a file to another part of the disk. (It makes my condensation of the utilities look a little sick.)

In the process of checking out the MOVE portion, I found that programs longer than one track were chopped off. The reason was that the MOVE program assumed that each track held 12 pages.

For a reason that I don't understand, whereas data files contain 12 pages per track, program file contain only 11. If you use the SAVE command with program files and assign 12 pages to some track of the file, the next track of the file will be messed up as well as any subsequent tracks.

In fixing this bug, I looked at the formatting information that precedes the program or data information on each track. This formatting information contains the track number and the number of pages among other things, so that it was possible to find what was needed. However, there are a number of things I wasn't able to determine which (it seems to me) should also be contained in the formatting information, namely, whether the track contains a BASIC program, a source file, object code, or a data file, or whether it is empty. Although there did seem to be differences, I wasn't able to correlate specific patterns of formatting information with what was on the track. Can anybody help?

The way I have been looking at the format info is to bring the track into memory using the EXAM command and then peek into memory as follows:

```
100 DISK!"EXAM 8000=24"
110 K=32768
120 FOR I=0 TO 20
130 PRINT PEEK(I+K);
140 NEXT I
```

In the above, track 24 is being examined, and 32768 DEC=8000 HEX.

I am not sure how many bytes are included in the format info, but I doubt that it's more than 10 although I have been looking at more than 20. One confusing point is that there seems to be almost a randomness in the position of the page info which is sometimes in the 7th and other times in the 8th position, because somtimes there are two 88's and other times only one, and sometimes there is a 255 or a 254 present.

Because some of these new programs may need more explanation or illustrate some interesting techniques, I intend to spend a portion of this column for the next few months discussing those programs.

I'll start with some of those I have written.

BEXEC*

Although I originally had more comments than now are present, I had to eliminate some in order to keep the program on one track. Addition of only a few bytes caused the program to require another track when Tom Rowlett added a few comments. To return to a single track, eliminate judiciously here and there.

Lt. Col. Robert Baldassano has suggested an improvement in the revised DIRSRT program which I discussed some time ago in which the results are listed in three columns. The directory has been incorporated into BEXEC* so his comments also apply to it. He notes that the names don't line up because the numbers less than 10 have only one digit. His change (as applied to the revised BEXEC*) is to add the following:

```
     10110
 I$=STR$(I):S$=STR$(S):T$=STR$(T)
     10120  IF I<10 THEN I$=" "+I$
     10130  IF S<10 THEN S$=" "+S$
     10135  IF T<10 THEN T$=" "+T$
```

Lines 10140 and 10160 must be changed:

```
     10140        PRINT        I$;NM$(I);"
";T0%(I);"-";T9%(I);TAB(21)S$;NM$(S);
     10160   PRINT   TAB(42)T$;NM$(T);"
";T0%(T);"-";T9%(T)
```

Unfortunately these changes will cause an additional track to be required unless something else is deleted.

Some candidates for deletion are: Lines 10250, 15100 and most of the REMARKs, and for disks other than the ones containing GATHER and/or TWOBUF, you should delete lines 10395 and 10396.

GATHER

The rough calculation that sets aside memory for device #5 is not necessarily optimum for all cases. You may run out of memory within the program in some cases which will show up when BASIC inputs from device #5 after all your disks have been read into device #5. The program may do some odd things or it may just hang up. In any case it means that your available memory has been exceeded. To prevent (or correct) this, you should decrease DD of line 180 if you have less than 55 disks, and you can decrease MAX of line 220 to a smaller number, say 5 or 6.

JOE KIRSHNER

# A Challenge for OSIO

By David Whipp

I was impressed in high school when our teacher pointed out that in a class of 20 or more there would be a 90% chance for two people to have a birthday on the same day.

When I became interested in the somewhat obscure works of Aliester Crowley, I knew that others were also interested -- but I was never able to locate even one.

Now, in the light of the questionnaire in the July issue of the Newsletter, and extending the same theme a bit further, I suggest that the members of OSIO let each other know of their "farther-out" special interests -- those out beyond the ones already established in the C1P, C3, Fortran, word processing, etc. Surely there exist in our organization many small groups of people who are using their computers to probe very special (and sometimes esoteric) special interests. Of course, the exchange of information would be invaluable to each of them.

I think, too, that we could consider any efforts expended on this project as an experiment. If it works with OSIO, there's a possibility that it may work on a larger scale. There must be thousands of people across the country who want to know who else shares an interest in applying the capabilities of a computer to some little-known special interest. The list of areas through which a common bond may form is endless!

To get started, we need those of you who have been trying to put their computer to work outside the list of obvious subjects in the July questionnaire to let me know what your project is. I'll find some way of letting everyone know if a match has been made.

If you're interested, just send me your name, address, membership number, and the list of subjects in which you have a special, computer-related interest. I'm told that Joe Kirshner worked out a neat sorting routine for this kind of job, and maybe he'll pass it along for this one. We'll see what happens.

David Whipp
1014 E 4 S
Salt Lake City, Utah 84102

EDITOR'S NOTE: No doubt about it, some far-out interests flourish among us. Not ~~sure how many of us are probing witchcraft,~~ but many work with genealogy, the semantic analysis of old French literature has its devotees, and as David says, there's no end to it. The approach, the programs, the sources of information, the disposition of the results -- all are fair game. Send him a note --

# Level 3 Speed Note

Bill Brown of Squires Electronics in Cornelius, Oregon, wonders whether other users of OSU Level 3 have the same problem he has when two or more users execute the FIND command, using different files on a hard disk. His operating system reloads the track each time the system changes users.

"Needless to say," Bill points out, "this really slows the computer down."

By a factor of 10, in fact.

He mentions that he has done the fix shown in Tech Note 28. The problem appears only when he is using the hard disk, not when he is using floppies.

He wonders whether OSI knows of the problem, whether it can be fixed, and if so, how.

If you have a Level 3, hard disk system, adapt the following to a couple of your data files, try it, see what happens, and let us or Bill know:

First user:

```
100 DEV"E:OPEN"INV30",1
200 INDEX<1>=0
300 FIND"0",1
350 J=J+1
400 PRINT INDEX(I),J
500 GOTO 200
```

Second user:
Same, except open a different file.

# Writing to OSIO

The return address on your Newsletter is a one-way address. We use it only for mailing the Newsletters at the third-class rate. Please don't use it to communicate with OSIO; this leads to delays.

OSIO work is done by volunteers, most of whom live far from the others. We now have a few more shoulders against the wheel, and we could use more; as we distribute the work, we'll revise the list below. Our long-range plan is for the letter, or the order and the check, to go to the person who will take immediate action on it (and follow up if necessary) -- the membership chairman, for example -- and for that person to send the checks to the treasurer, who will deposit them and will not need to take any further action on the transactions.

The subjects on which we get the most mail, and the people to whom mail on those subjects should be sent (at present) for best service, are listed below.

Orders and checks (payable to OSIO) for dues, program exchange disks, and back issues of the Newsletter, and correspondence on other subjects listed below, will get prompt attention if they go to the address given below:

WHERE TO WRITE:
Program Exchange:
- 8" disks, 65U and 65D: Thomas M. Rowlett, 11296 Windsor Ct., Ijamsville, MD 21754
- 5-1/4" disks, C1P: Stewart C. Meyers, 8502 Jefferson St., Bethesda, MD 20034
- 5-1/4" disks, C4P: Herbert Mumford, 9608 Sunset Dr., Rockville, MD 20850
- Cassette tapes, C1P: James E. Kupperian, Jr., 2702 Lyn Place, Bowie, MD 20715
- Cassette tapes, C4P: John Randall, 850 Hungerford Drive, Rockville, MD 20850

Newsletter articles, comments, program listings, and letters: Wallace Kendall, 9002 Dunloggin Rd, Ellicott City, MD 21043.

Applications and checks for membership and membership renewal; change of address: Rick Myers, 12004 Partello Rd., Bowie, MD 20715

Orders and checks for back Newsletters: Wallace Kendall (temporarily, pending appointment of a librarian. Address above.)

Orders and checks for group buy items that have been announced in the Newsletter: Mary Lowery, 2005 N. Uhle St., Arlington, VA 22201 (temporarily, pending appointment of a Group Buys chairman).

# Cryptology Competition

If you're an undergraduate student and are interested in cryptology (remember those RND(X) programs?) you can now try your hand at winning a $300 prize for a paper on any area of the subject. Technical, historical, and literary approaches are okay, and others are not excluded. For more information, write to CRYPTOLOGIA, Albion College, Albion, MI 49224. The contest closing date is 1 January 1982.

# Those Questionnaires

With your July Newsletter you received a questionnaire. We explained that the replies would be used to prepare a membership directory -- and we rashly suggested that the said directory might be going to press in August.

Well, the completed questionnaires have been slow in arriving, so we're holding up the printing for a while. If you haven't returned yours, dig it out of the July issue right now, fill it out, and mail it to Joe Kirshner. You may find that you live a quarter of a mile from some other OSI owner -- one whom you'll enjoy knowing, whom you can help, and who perhaps can help you.

# Membership Information

OSIO dues are $15 a year. Overseas members who want the Newsletter sent by airmail pay an additional $15, a total of $30 U.S. (It seems likely, because of recent increases in postal fees, that we shall have to increase all rates. Renew now!)

If you are a member, your membership number and the date to which your dues are paid are shown above your name on the mailing label. Watch your label, and renew your membership promptly before it expires! We do not have the resources to mail renewal and reminder notices.

If only the name and address appear on the label, this is a sample copy. We invite you to become a member, take part in our activities, and enjoy the benefits of our Newsletter, Program Exchange, chapter meetings, seminars, and occasional discount offers and group purchases. Just send a check in the proper amount to Rick Myers, our membership chairman, whose name and address are given in Where To Write.

# Meetings

The MD-VA-DC group meets on the first Tuesday of each month at 7:30 p.m., at the Walter Johnson High School, 6400 Rock Spring Drive, Rockville, MD.

On September 1, Sidney Brounstein will discuss modems and programs that are available for transferring programs and data. We will also exchange information on the many Computerized Bulletin Boards that are on line in the area, and discuss the time-sharing systems that are most popular among our members.

If you use a modem, modem-related software, a CBBS, or a timesharing service, come prepared to talk about them. If you don't, come and hear why you should, and what are the best ways to go about it.

OSI groups meet at Community Computers, 2704 N. Pershing Drive, Arlington, VA, at 7:30 p.m., to discuss:
Second Tuesday: Cassette-based systems, BASIC-in-ROM, hardware.
Third Tuesday: OS-65D, home systems, polled keyboards, MDMS.
Fourth Tuesday: OS-65U, serial terminals, 8" floppy and hard disks, business applications.

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best all-round utilization of the newly-available bytes. He suggests ground rules providing that all the programs submitted will be made available to OSIO members through the Newsletter or the program exchange or the library (Yes, the library exists, but it has not yet become truly operational).

The programs could be copyrighted, of course, if the author desires. The winning entry would be selected by a jury of experienced programmers, and Jim is willing to remove himself from the competition and be a member of the jury.

The suggestion came in at press time, and we haven't had time to discuss it with other officers and members, but start thinking about it. We'll have more on it later.

```
RUN"CHANGE                                ADDRESS ? 1946
                                          00001946    A9 ? 66
DISK CHANGE UTILITY                       00001947    00 ? 73
                                          00001948    90 ? 66
MODE: HEX(H), DEC(D) ? H                  00001949    02 ? 74
UNIT ? A                                  0000194A    A9 ? 66
ADDRESS OFFSET ? C00                      0000194B    80 ? 75
ADDRESS ? 1854                            0000194C  F 46 ? 66
00001854    A9 ? 76                       0000194D  s 73 ? 76
00001855    00 ? 02                       0000194E    05 ? 66
00001856    90 ? 76                       0000194F  s 73 ? BD
00001857    02 ? 03                       00001950    85 ? 98
00001858    A9 ? 76                       00001951  s 73 ? 4A
00001859    80 ? 04                       00001952    A9 ? D0
0000185A  V 56 ? 68                       00001953    00 ? D6
0000185B    02 ? 6A                       00001954    90 ? 60
0000185C    15 ? C8                       00001955    02 ? X
0000185D    02 ? D0
0000185E    95 ? E8                       OK
0000185F    02 ? 18                       CLOSE
00001860    A9 ? 60
00001861    00 ? .                        OK
```

```
10 LIST: RUN 20TO IMPLEMENT
20 REM DISK BASIC CORRECTION ROUTINE OS-65D 5" DISK
30 REM CORRECTED AND EXTENDED BY J. KUPPERIAN FOR OSIO USE.
40 REM JOHN A. SAUTER BYTE MAY 1981
50 DATA102,175,102,176,102,177,102,178,102,189,96
60 DATA 118,2,118,3,118,4,104,106,200,208,232,24,96
70 DATA 102,115,102,116,102,117,102,118,102,189,152
80 DATA 74,208,214,96
90 REM SET UP TOP OF MEMORY TO $41FF
100 X=PEEK(132):Y=PEEK(133)
110 POKE132,255:POKE133,65:POKE128,255:POKE129,65
120 REM CALL IN A PORTION OF BASIC TO $4200
130 DISK!"CA 4200=04,1":REM CA 4800=03,1 FOR 8" DISKS
140 A0=18347:REM 18347=$47AB
150 A1=18516:REM 18516=$4854
160 A2=18758:REM 18758=$4946
170 REM POKE IN CORRECTED CODE
180 FOR I=0 TO 10:READ D:POKE A0+I,D:NEXT I
190 FOR I=0 TO 12:READ D:POKE A1+I,D:NEXT I
200 FOR I=0 TO 14:READ D:POKE A2+I,D:NEXT I
210 REM:CORRECT JUMPS TO FREE ALL CODE.
220 POKE18342,14
230 POKE18502,24
240 REM REMOVE OLD CODE
250 FORI=11 TO 60:POKE A0+I,234:NEXT I
260 FORI=13 TO 48:POKE A1+I,234:NEXT I
270 FORI=15 TO 64:POKE A2+I,234:NEXT I
280 REM SAVE CORRECTED CODE ON DISK
290 DISK!"SA 04,1=4200/8":REM SA 03,1=4800/8 FOR 8" DISKS
300 POKE132,X:POKE133,Y:POKE128,X:POKE129,Y
OK
```

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Select the Track 0 Read-Write Utility and then type W4200 2200,8.

The Menu routine has now been placed on Track 0 of the diskette.

(Editor's Note: The program has been shortened by Jim Kupperian).

```
10          ; OS65D BOOT-UP MENU
20          ;
30          ; BY M. F. PUTMAN 6/1/81
40          ;
50          ; OS65D ROUTINES USED
60          PMSG=$2D73    ; PRINT MESSAGE
70          CHRIN=$2340   ; CHR INPUT & REFLECT
80          ;
90          *=$2283       ; INSERTION ADDRESS
100 BMENU   LDX   #1
110         STX   $DE00   ; SET COLOR, SOUND CONTROL
120         INX
130         STX   $2321   ; INPUT I/O = KEYBOARD
140         STX   $2322   ; OUTPUT I/O = VIDEO
150         STX   $2AC6   ; FAULT I/O POINTER
160         JSR   PMSG    ; PRINT MESSAGE BELOW
170   .BYTE $D,'OS-65D V3.2'
180   .BYTE $D,$A,' ASM'
190   .BYTE $D,$A,' BASIC'
200   .BYTE $D,$A,' DOS'
210   .BYTE $D,$A,' EM'
220   .BYTE $D,$A,'WHICH?
230   .BYTE 00
240         JSR   CHRIN   ; SOLICIT CHARACTER
250         CMP   #'D     ; IS IT 'D'?
260         BNE   SY1     ; BRANCH IF NO
270         JMP   $2A51   ; JUMP TO DOS COMMAND MODE
280 SY1     CMP   #'A     ; IS IT 'A'?
290         BNE   SY2     ; BRANCH IF NO
300         JMP   $2ADE   ; JUMP TO ASM LOADER
310 SY2     CMP   #'E     ; IS IT 'E'?
320         BNE   SY3     ; BRANCH IF NO
330         JMP   $2B2F   ; JUMP TO EM LOADER
340 SY3     CMP   #'B     ; IS IT 'B'?
350         BNE   BMENU   ; IF NO, TRY AGAIN
360         LDX   #$10
370         STX   $2321   ; INPUT I/O = MEMORY
380         JMP   $2AE6   ; JUMP TO BASIC LOADER
```

# News and Rumors

OSI has not yet found as many sales reps as it wants, so if you are knowledgeable, persuasive and available, you might want to touch base with them. We hear there's going to be a big push as the new stores come on line, and at least two OSIO members have already moved in.

Get ready to say goodbye to the eight-inch floppy. Or, at least, to start saying goodbye. OSI eyes are on a double-sided, double-density, 5¼" floppy, and we hear that it will soon be taking center stage.

But there's another contender on deck, especially for business systems: a 5¼" Winchester technology hard disk, which we may as well call the Minnie Winnie, teamed up with one or more 5¼" floppies, it should offer a lot of rapidly available memory in a small package.

The model 541 graphics expander is now being shipped from the factory. It uses 8K of on-board memory to map the 256 by 512 individual points on the screen. It also has 24K of RAM, and when you put it in the top 24K, you can use either 48K of regular memory, or 32K of work space, and 16K for memory mapped graphics. It can be added to your C4P or C8P, but that's a factory upgrade, not one for you to try at home.

# A 65-D Hint from Australia

Courtesy OMEGA
OSI Microcomputer Enthusiasts Group, Australia

If you are suffering from your kid's killing games disks, by switching off the disk drive while the diskette is still in it, here is the answer:

Put DISK!"HOME at the beginning of the programs they use on the disk. This puts the disk head at track 0, and then only track 0 will be lost. As all your track 0's are the same, a quick run with the track 0 copier will restore the disk to running condition.

# Newsletter Back Issues

The Newsletter started with April 1979. The first few issues were short, but we tried to include some interesting, often useful routine or tip in each one. Some are out of print, and in order to prepare a complete set, we must photocopy those. In copying the issues up to January 1980 we have deleted outdated material such as meeting announcements.

The price of the back issues inches up as more issues must be photocopied, the package gets heavier, and the mailing costs increase. If you'd like a set, we'll assemble one and send it to you for $8.00 plus postage. The set now weighs about 19 ounces. Fourth class postage is from about $1.60 (near Washington) to about $2.50 (West Coast and Hawaii). Be sure to give your membership number.

# Program Exchange

Our exchange disks do not contain the operating systems or other proprietary programs; add your own system to them, or copy the programs you want to other disks.

Send your own programs to the appropriate person (see Where To Write in this issue) with enough postage to return the material to you, and if your program is accepted for the Exchange, we'll add the other programs in the Exchange to your disk or cassette before we return it.

Primarily for the benefit of new members who do not yet have programs to exchange, we will provide a library disk for $7.50 plus postage, or a cassette for $2.50 plus postage. In the U.S., first-class postage for a disk or a cassette is about $1.80; overseas postal rates have recently been steeply increased. They are now about $2.50 for one 8" disk by air to Central America, South America, or Europe, and about $3 by air to the Pacific Ocean islands and Asia. Each additional disk or cassette adds about .50 more.

In ordering 8" disks, be sure to say whether 65U or 65D. Send orders for 5-1/4" disks and cassettes to the proper person (see Where To Write) - and always give your membership number.

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